THE PLANT DISEASE REPORTER

Issued By

THE PLANT DISEASE SURVEY

Division of Mycology and Disease Survey
BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING
AGRICULTURAL RESEARCH ADMINISTRATION
UNITED STATES DEPARTMENT OF AGRICULTURE

BIBLIOGRAPHY OF THE FUNGI AND BACTERIA ASSOCIATED WITH TUNG (ALEURITES SPP.)

Supplement 216 September 15, 1952

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The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

PLANT DISEASE REPORTER SUPPLEMENT

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THE PLANT DISEASE SURVEY
DIVISION OF MYCOLOGY AND DISEASE SURVEY

Plant Industry Station Beltsville, Maryland

BIBLIOGRAPHY OF THE FUNGI AND BACTERIA ASSOCIATED WITH TUNG[1] (ALEURITES SPP.)

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Plant Disease Reporter
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The euphorbiaceous trees yielding tung oil of commerce are indigenous to tropical Asia. Of these, the more important are Aleurites fordii Hemsl., a native of subtropical China, and A. montana (Lour.) E. H. Wils., which occurs naturally from Burma to China. In addition, A. cordata (Thunb.) Muell. Arg., native to Japan, A. moluccana (L.) Willd. from the Malayan Archipelago, and A. trisperma Blanco from the Philippine Islands, all yield oil possessing industrial properties, but nowhere are these species under intensive cultivation.

Until about 25 years ago the world requirement of tung oil was derived almost exclusively from China. During the last three decades, however, plantations have been established in the southern United States, on the Russian coast of the Black Sea, in Brazil, Argentina, Nyasaland, India, Burma, Indonesia, and Indochina. The crop is also grown on a smaller scale in Peru, Queensland, South Africa, the Belgian Congo, Madagascar, and several other subtropical regions.

In view of the expansion of the tung oil industry in many countries it was thought that an annotated bibliography of the fungi associated with species of Aleurites would be of value to plant pathologists studying diseases affecting this crop. An attempt has therefore been made to compile, from various sources, all available records relating to the occurrence of fungi on this genus. In this connection much information was obtained from the reference files of the Commonwealth Mycological Institute, Kew, England, and that of the Division of Mycology and Disease Survey, Bureau of Plant Industry, Soils, and Agricultural Engineering, Beltsville, Maryland, U.S.A.

The following arrangement has been adopted in the bibliography. Fungi are listed in alphabetical order. The more common synonymy found in current literature is given next, followed by short notes on the pathogenic status of the organism and its world distribution; and references conclude each entry.

Of the 90 species listed, some 20 or so are probably saprophytes, and the remainder are pathogenic, but it will be observed that apart from several foliicolous species the others are mostly facultative parasites having a wide host range throughout tropical and subtropical areas. Two bacteria pathogenic to A. fordii and A. montana are included in the bibliography, but diseases of physiological, virus, or obscure origin have been omitted.

Finally, in order to simplify reference, two appendices have been prepared. In the first, organisms have been grouped according to the organ of the plant attacked, while the geographical distribution of fungi recorded as pathogenic to Aleurites spp. is shown in the second.

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Leaf spot on A. montana in Malaya.

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ALTERNARIA SP.

Brown leaf spot on A. fordii in India.

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[1]The author is indebted to Dr. S. P. Wiltshire, Director Commonwealth Mycological Institute, Kew, England, John A. Stevenson and Dr. Paul R. Miller, Division of Mycology and Disease Survey, Bureau of Plant Industry, Soils, and Agricultural Engineering, United States Department of Agriculture, for facilities granted to study in the reference libraries of these Institutions.

[2]Plant Pathologist, Department of Agriculture, Nyasaland.

ARMILLARIA MELLEA Vahl ex Fr.

Root rot, collar crack. World-wide distribution, but only reported on A. fordii and A. montana in Nyasaland.

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ASCOCHYTA ALEURITIDIS Saccas & Drouillon

A species of doubtful parasitism occurring on leaf spots caused by Phyllosticta aleuritidis Saccas & Drouillon, on A. fordii in French Equatorial Africa.

Saccas, A. M., and R. Drouillon. Agron. Trop. 6: 239-264. 1951 (abs. R.A.M. 30: 551. 1951).

AURICULARIA CORNEA Ehrenb.

Probably saprophytic, on A. moluccana in the Philippine Islands.

Reinking, O. A. Phil. Journ. Sci. 15: 479-490. 1920.

AURICULARIA POLYTRICHA L. ex Willd.

On dead branches of A. moluccana in the Philippine Islands.

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Botryodiplodia theobromae Pat.: See Physalospora rhodina

BOTRYOSPHAERIA RIBIS Grossenb. & Dugg. (stad. con. Dothiorella gregaria Sacc.)

Dothiorella ribis (Fckl.) Sacc.

This fungus is widely distributed on a large number of hosts in the tropics. It has been reported on Aleurites spp. in the Hawaiian Islands, Nyasaland, and the United States, causing crown girdle, dieback, stem canker, stump rot following sunscorch injury, twig blight, and nut rot.

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Cercospora aleuritidis (Miy.) Ou: See Mycosphaerella aleuritidis.

CERCOSPORELLA THEAE Petch

Leaf spot of Aleurites spp. in India.

Subba Rao, M. K. Admin. Report Tea Sci. Dept. United Planters Assoc. So. India. 1937-38: 28-37 (abs. R.A.M. 18: 821. 1939).

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CLITOCYBE TABESCENS (Scop.) Bres.

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Colletotrichum gloeosporioides Penz.: See Glomerella cingulata.

COLLETOTRICHUM GLOEOSPORIOIDES Penz. var. ALEURITIDIS Saccas & Drouillon

Differs from species in size of spores and hairs. Leaf spot, sometimes severe, of living leaves of A. fordii and A. montana in French Equatorial Africa. See also Glomerella cingulata var. aleuritidis.

Saccas, A. M., and R. Drouillon. Agron. Trop. 6: 239-264. 1951 (abs. R.A.M. 30: 551. 1951).

COLLETOTRICHUM SP.

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Corticium javanicum Zimm., C. zimmermanii Sacc. & Syd.

Wide distribution on plantation crops of tropics and subtropics, causing "pink disease". On Aleurites spp. in French Equatorial Africa, India, and Java.

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PHYSALOSPORA RHODINA (Berk. & Curt.) Cke.
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Under normal conditions a weak parasite of pan-tropical distribution on many hosts; on Aleurites spp. however, this fungus has been reported to be the cause of the following diseases: canker and crown canker (United States), stump rot (Brazil, Burma, Java, India, Indo-China, Nyasaland, Southern Rhodesia), twig blight (Nyasaland).
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APPENDIX I

FUNGI PARASITIC ON THE VARIOUS ORGANS OF ALEURITES SPP.

A. Leaf Diseases

Acremoniella sp., Alternaria sp., Ascochyta aleuritidis, Cercosporella theae, Colletotrichum gloeosporioides var. aleuritidis, Colletotrichum sp., Corticium microsclerotia, C. stevensii, Fusarium heterosporum forma aleuritidis, Gloeosporium aleuriticum, Gloeosporium sp., Glomerella cingulata, G. cingulata var. aleuritidis, Melampsora aleuritidis, Mycosphaerella aleuritidis, Pestalotia dichaeta, P. japonica, Pestalotia spp., Phyllosticta aleuritidis, P. microspora, Phyllosticta sp., Phytophthora palmivora, Pseudomonas aleuritidis, Sclerotium rolfsii, Uncinula miyabei.

B. Stem Diseases

Botryosphaeria ribis, Corticium microsclerotia, C. salmonicolor, C. stevensii, Diplodia sp., Fomes hawaiensis, Fusarium lateritium, Glomerella cingulata, Macrophoma sp., Pestalotia conigena, Pestalotiopsis disseminata, P. versicolor, Phoma sp., Phomopsis sp., Physalospora rhodina, Schizophyllum commune, Sclerotium rolfsii, Thyridaria sp., Trametes corrugata, T. occidentalis, Ustulina deusta, Xanthomonas solanacearum.

C. Root Diseases

Armillaria mellea, Clitocybe tabescens, Fomes lignosus, F. noxius, Ganoderma lucidum, G. pseudoferreum, Phymatotrichum omnivorum, Phytophthora cinnamoni, P. palmivora, Pythium aphanidermatum, Pythium sp., Rhizoctonia lamellifera, R. solani, Rosellinia sp., Sclerotium bataticola, Sphaerostilbe repens, Ustulina maxima, U. zonata.

D. Flower and Fruit Diseases

Botryosphaeria ribis, Botrytis cinerea, Diplodia sp., Kretzschmaria scruposa.

APPENDIX II

GEOGRAPHIC DISTRIBUTION OF FUNGI RECORDED AS PATHOGENIC TO ALEURITES SPP.

ASIA:

Burma:	Gloeosporium sp., Physalospora rhodina
Ceylon:	Fomes lignosus, F. noxius, Pestalotia sp., Pythium sp., Sclerotium rolfsii, Ustulina zonata.
China:	Melampsora aleuritidis, Mycosphaerella aleuritidis, Pythium aphanidermatum, Uncinula miyabei.
India:	Alternaria sp., Cercosporella theae, Clitocybe tabescens, Corticium salmonicolor, Pestalotia sp., Physalospora rhodina, Phytophthora palmivora.

Indochina:	Physalospora rhodina, Sphaerostilbe repens.
Indonesia:	Corticium salmonicolor, Diplodia sp., Fomes lignosus, Ganoderma pseudoferreum, Gloeosporium aleuriticum, Physalospora rhodina, Phytophthora palmivora, Rhizoctonia solani, Sclerotium bataticola, Sphaerostilbe repens, Ustulina maxima, Xanthomonas solanacearum.
Japan:	Mycosphaerella aleuritidis.
Malaya:	Acremoniella sp., Colletotrichum sp., Diplodia sp.
Philippine Islands:	Diplodia sp., Ganoderma lucidum, Gloeosporium aleuriticum.
U.S.S.R. (In Asia):	Botrytis cinerea, Macrophoma sp., Pestalotia conigena, Pseudomonas aleuritidis.

AFRICA:

Belgian Congo:	Fomes lignosus
French Equatorial Africa:	Ascochyta aleuritidis, Colletotrichum gloeosporioides var. aleuritidis, Corticium salmonicolor, C. stevensii, Fusarium heterosporum f. aleuritidis, Glomerella cingulata, G. cingulata var. aleuritidis, Mycosphaerella aleuritidis, Pestalotia dichaeta, Phyllosticta aleuritidis, P. microspora, Thyridaria sp.
Gold Coast:	Pestalotia spp.
Nyasaland:	Armillaria mellea, Botryosphaeria ribis, Fusarium lateritium, Glomerella cingulata, Pestalotia japonica, Pestalotiopsis disseminata, P. versicolor, Physalospora rhodina, Rhizoctonia lamellifera, R. solani, Schizophyllum commune, Trametes occidentalis, Ustulina zonata.
Southern Rhodesia:	Physalospora rhodina.

NORTH AND SOUTH AMERICA:

United States:	Botryosphaeria ribis, Cephalosporium sp., Clitocybe tabescens, Corticium microsclerotia, C. stevensii, Gloeosporium aleuriticum, Glomerella cingulata, Mycosphaerella aleuritidis, Phyllosticta sp., Phymatotrichum omnivorum, Physalospora rhodina, Phytophthora cinnamomi, Pseudomonas aleuritidis, Sclerotium rolfsii.
(Including Hawaii):	Botryosphaeria ribis, Fomes hawaiensis, Polyporus gilvus, Trametes corrugata, Ustulina deusta.
Bermuda:	Pestalotia spp., Phoma sp.
Argentina:	Rhizoctonia solani
Brazil:	Mycosphaerella aleuritidis, Peziotrichum saccardium, Phomopsis sp., Physalospora rhodina, Rosellinia sp.

AUSTRALASIA:

Australia:	Pseudomonas aleuritidis.
New Caledonia:	Kretzchmaria scruposa

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